

Deflection, Spraying and Induced Scattering of Intense Laser Beams in Plasmas\*

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Investigations into laser beam spraying, deflection, and induced scattering in plasmas are presented. Recent calculations and experiments on beam spraying<sup>1</sup> due to filamentation are discussed. A simple model is presented for the enhanced beam deflection<sup>2,3</sup> which occurs when the plasma flow transverse to the beam is nearly sonic. This model provides useful insights on the laser beam deflection, its scaling and the importance of self-consistent profile modifications. Finally, some initial discussion is given of recent experiments<sup>4</sup> demonstrating the nonlinear behavior and competition of stimulated Raman and Brillouin scattering.

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